

A New Species of the Genus *Tenuipalpus* (Acari: Tenuipalpidae) from South Africa

Shôzô EHARA¹ and E. A. UECKERMANN²

¹*Hamasaka 2–15–7, Tottori 680–0001, Japan*

²*ARC-Plant Protection Research Institute, Private Bag X134, Pretoria 0001, South Africa*

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ABSTRACT

A phytophagous mite species of the genus *Tenuipalpus* Donnadieu was found on 2 plant species, namely *Nebelia* sp. and *Berzelia* sp., imported from South Africa and intercepted by plant quarantine inspectors at Narita Airport, Japan. This mite is described and illustrated here as *Tenuipalpus masakii* sp. nov. The species is assigned to a unique *aberrans* species group having 3 pairs of nonflagellate caudolateral setae on the opisthosomal dorsum.

Key words: *Berzelia*, *Nebelia*, *Tenuipalpus masakii*, new species, Japanese plant quarantine, South Africa

INTRODUCTION

Numbers of phytophagous mite species have been intercepted during check inspections of imported plant material in Japan (*e.g.*, Masaki, 1991; Masaki *et al.*, 1991; Ehara and Masaki, 2001). Recently, an exotic spider mite, *Oligonychus obliquus* Ehara and Masaki was described from squash (*Cucurbita* sp.) imported from Mexico to Japan (Ehara and Masaki, 2001).

In 2002, a false spider mite species was intercepted during quarantine inspections of the plant species of *Nebelia* and *Berzelia*, which were imported from South Africa to Japan, by staff of the Narita Branch, Yokohama Plant Protection Station. On examination, it has been identified by us as an undescribed species belonging to the genus *Tenuipalpus* Donnadieu, 1875. This species is described and illustrated here as new.

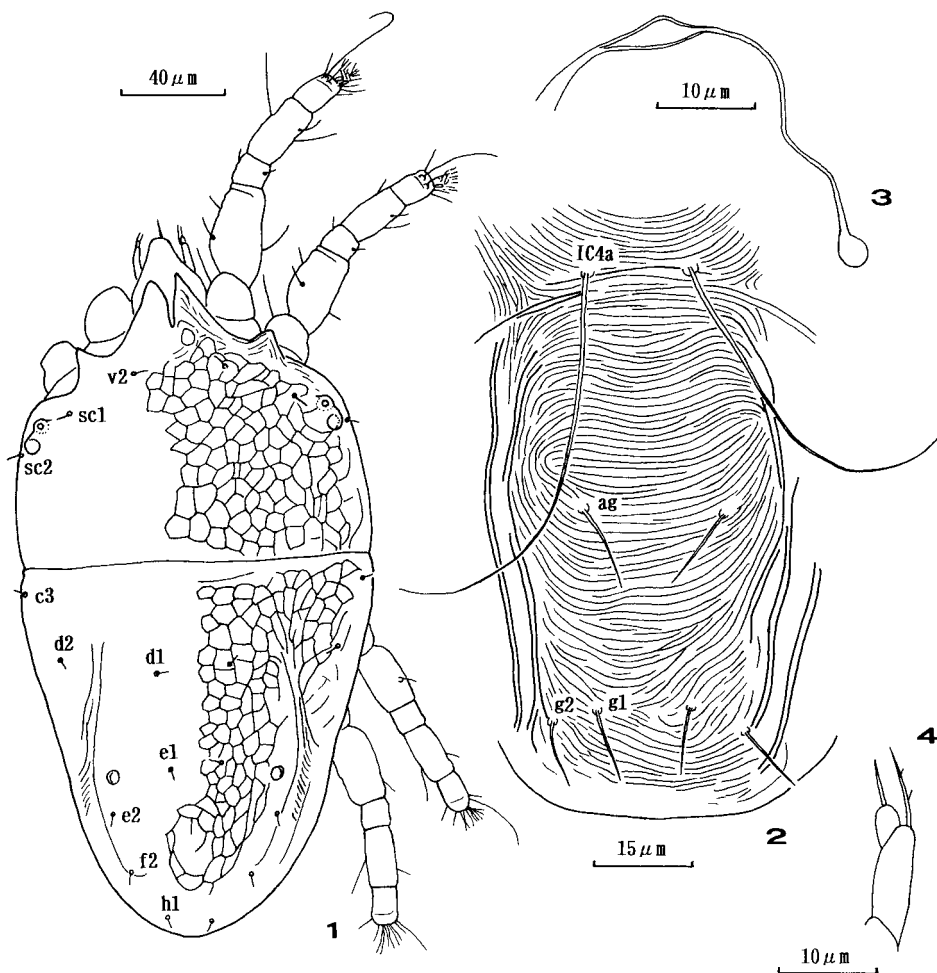
The setal notations used in the description follow Lindquist (1985). The measurements are given in micrometers. Those of the holotype are shown in parentheses following the mean. The holotype and one paratype are deposited in the National Collection of Arachnida, ARC-Plant Protection Research Institute, Pretoria, South Africa. The other two paratypes are retained in the collection of the National Science Museum, Tokyo.

Tenuipalpus masakii Ehara and Ueckermann, sp. nov.

(Figs. 1–4)

Female. Body rather oval; length of body, including rostrum, 287 (276); widest breadth 149 (142). Rostral shield deeply cleft medially. Prodorsum with 2 strong angulations

anterolaterally between coxae I and II, shoulders rounded; metapodosoma without lateral angulations; opisthosoma gradually narrowing posteriorly (Fig. 1). Prodorsum mostly covered with polygonal reticulations; opisthosomal dorsum with polygonal reticulations anterior to setae d2 and medially between 2 mediolateral grooves; pair of opisthosomal pores present lateral to seta e1. All dorsal body setae (10 pairs) minute, setiform, practically smooth; prodorsal setae as usual 6 in number: v2, sc1, sc2; first (c1) pair of dorsocentral setae absent, the second (d1) and third (e1) pairs present; dorsolateral opisthosomal setae: c3 (so-called humeral seta), d2, e2, f2, and h1 present, no flagellate setae (Fig. 1); lengths of setae (mean \pm SE, n=7 or 8): v2 5.7 \pm 0.2 (6.3), sc1 6.6 \pm 0.3 (6.0), sc2 6.0 \pm 0.4 (6.1), c3 5.7 \pm 0.5 (4.9), d1 4.7 \pm 0.2 (4.2), d2 5.8 \pm 0.4 (5.7), e1 4.5 \pm 0.3 (4.5), e2 5.4 \pm 0.2 (5.2), f2 5.2 \pm 0.3 (4.8), h1 4.9 \pm 0.2 (4.7). Metapodosomal venter (Fig. 2) with 1 pair of short IC3a (not shown in Fig. 2) and 1 pair of long, flagellate IC4a setae; area between IC3a and IC4a with transverse striae



Figs. 1–4. *Tenuipalpus masakii* sp. nov., female. 1, dorsum (holotype); 2, pregenital and genital region (holotype); 3, spermatheca (holotype); 4, palpus.

anteriorly and rather curved striae posteriorly; pregenital and genital plates fused, with transverse to curved striae. Aggenital setae (ag) much shorter than distance between them, approximately as long as genital setae (g1, g2) (Fig. 2). Spermatheca as illustrated (Fig. 3). Rostrum extending to about middle of femur I; palpus three-segmented, distal segment with 1 long eupathidium; penultimate segment with 1 slightly barbed long seta (Fig. 4). Setal formula of legs I–IV: coxae 3–2–1–1; trochanters 1–1–2–1; femora 4–4–2–1, genua 3–3–0–0; tibiae 5–5–3–3. Dorsal setae on femora I–III and genua I and II setiform, slightly serrate to practically smooth (in one paratype each femur I with dorsalmost seta stout, conspicuously serrate).

Male. Not known.

Type series. Holotype ♀ & 1 paratype ♀ (in ARC-Pl. Prot. Res. Inst., Pretoria), on *Nebelia* (Bruniaceae) imported from South Africa (at Narita Airport, Chiba Pref., Japan), 6-IX-2002 (H. Mizokami); 1 paratype ♀ (NSMT-Ac 11627), with the above data; 1 paratype ♀ (NSMT-Ac 11628), on *Berzelia* (Bruniaceae) imported from S. Afr. (at Narita Airport), 15-VI-2002 (H. Sakata).

Remarks. *Tenuipalpus masakii* sp. nov. is assigned to a new species group, *T. aberrans* group, which has only 3 pairs (e2, f2, h1) of dorsolateral setae on the caudal region of opisthosoma, and has no flagellate caudolateral setae. Previously no representatives of this group were recorded from South Africa (Meyer, 1993). The *T. aberrans* group has so far been represented by only 2 species, *T. aberrans* Collyer, 1973 (New Zealand) and *T. narsikulovi* (Mitrofanov and Strunkova, 1978) (Tadzhikistan). *T. masakii* sp. nov. differs from them in that the opisthosoma is dorsally covered with polygonal reticulations, and lacks the first pair (c1) of dorsocentral setae. Moreover, the new species is readily distinguished from *T. aberrans* by having the dorsal body setae minute, setiform, and practically smooth, and from *narsikulovi* by having a single pair of intercoxal setae IC4a.

According to Meyer (1993) the *T. aberrans* group can be divided into 2 subgroups based on the number of intercoxal setae on the metapodosomal venter (IC3a and IC4a), namely: 1) *T. masakii* subgroup, with 1 pair of IC3a and IC4a setae, comprising of 2 species, *T. aberrans* and *T. masakii* sp. nov., and 2) *T. narsikulovi* subgroup, with 1 pair of IC3a and 2 pairs of IC4a setae, comprising only of *T. narsikulovi*.

Mitrofanov and Strunkova (1978) erected a new genus *Amblypalpus* based on the type species *Amblypalpus narsikulovi* Mitrofanov and Strunkova, and included *T. aberrans* Collyer under *Amblypalpus*. However, Ghai and Shenhmar (1984) synonymized *Amblypalpus* with *Tenuipalpus*, which was widely accepted by tenuipalpid specialists. We also support this decision.

Etymology. The new species is named in honor of Mr. Makoto Masaki, Narita Branch, Yokohama Plant Protection Station.

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REFERENCES

- Collyer, E. (1973): New species of the genus *Tenuipalpus* (Acari: Tenuipalpidae) from New Zealand, with a key to the world fauna. *N. Z. Jour. Sci.*, 16: 915–955.
- Donnadieu, A. L. (1875): Recherches pour servir à l'histoire des Tétranyques. 135 pp., 12 pls., Soc. Linn. de Lyon, Lyon.
- Ehara, S. and M. Masaki (2001): Three species of exotic mites (Acari: Tetranychidae) recently intercepted at Japanese plant quarantine. *Appl. Entomol. Zool.*, 36: 251–257.
- Ghai, S. and M. Shenhmar (1984): A review of the world fauna of Tenuipalpidae (Acarina: Tetranychoidae). *Oriental Ins.*, 18: 99–172.
- Lindquist, E. E. (1985): Anatomy, phylogeny and systematics. 1.1.1. External anatomy. In: Spider mites, their biology, natural enemies and control (eds., Helle, W. and M. W. Sabelis), Vol. 1A, pp. 3–28, Elsevier, Amsterdam.
- Masaki, M. (1991): A list of Acarina intercepted on plant quarantine. *Res. Bull. Plant Prot. Jpn.*, (27): 87–92. (In Japanese)
- Masaki, M., T. Hayase and S. Miyajima (1991): Notes on eight species of spider mites and predacious thrips intercepted on squash imported from U.S.A., Mexico, Columbia and New Zealand. *Res. Bull. Plant Prot. Jpn.*, (27): 104–114. (In Japanese)
- Meyer, M. K. P. (Smith) (1993): A revision of the genus *Tenuipalpus* Donnadieu (Acari: Tenuipalpidae) in the Afrotropical region. *Entomol. Mem. Dep. Agric. Repub. S. Afr.*, (88): i–iv+1–84.
- Mitrofanov, V. I. and Z. I. Strunkova (1978): A new genus and species of the family Tenuipalpidae (Trombidiformes). *Zool. Zh.*, 57: 1095–1099. (In Russian with English summary)

摘 要

南アフリカ産 *Tenuipalpus* 属 (ヒメハダニ科) の 1 新種 江原昭三 (鳥取市浜坂 2–15–7) ・ E. A. Ueckermann (ARC-Plant Protection Research Institute, Pretoria, South Africa)

南アフリカ共和国から日本へ輸入された *Nebelia*, *Berzelia* 両属 (ブルニア科) の植物から、成田空港の植物検疫によってヒメハダニ科の 1 種が検出された。このヒメハダニを新種と認め、*Tenuipalpus masakii* と命名、記載した。本種は、後体尾部に背側毛が 3 対しかなく、長い鞭状毛を欠く *T. aberrans* 種群に属し、この種群の既知 2 種とは形態が著しく異なっている。